



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,374	09/02/2004	Gerald Adams	J3651(C)	1186
201 7590 04/07/2009 UNILEVER PATENT GROUP 800 SYLVAN AVENUE AG West S. Wing ENGLEWOOD CLIFFS, NJ 07632-3100				
EXAMINER MAHYERA, TRISTAN J				
ART UNIT		PAPER NUMBER		
1615				
MAIL DATE		DELIVERY MODE		
04/07/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/506,374

Applicant(s)

ADAMS ET AL.

Examiner

TRISTAN J. MAHYERA

Art Unit

1615

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-13,15 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-13,15 and 17-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date 2/10/2009
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/10/2009 has been entered.

Status of the Claims

Claims 1-3, 5-13, 15 and 17-19 are pending. Claims 1-3, 17 and 18 have been amended. Claims 4, 14 and 16 have been cancelled. Claims 1-3, 5-13, 15 and 17-19 are examined on the merits.

Response to Arguments

Applicant's arguments and amendments with respect to the claims are the following:

A) Applicants argue that the class of ABA polymers can be derived from a great many different monomers, with thousands of configurations possible and the suitability of ABA polymers as styling aids is widely variable, thus the combination of references do not teach one skilled in the art to selectively fabricate and incorporate the subject A-

L-B-L-A copolymers into hair styling products, in particular, FRECHET does not disclose or suggest polymers having a PEG core.

B) Applicants amended claims 1-3 to state that the hair styling product is "... in the form of a hair spray or mousse, and is packaged in a pump spray, aerosol, or pump aerosol container and is labelled for use in styling hair and..."

Examiners response to the above arguments and amendments:

With regard to A), the Examiner agrees that that the class of ABA polymers can be derived from a great many different monomers, with thousands of configurations possible, however, this does not distinguish the prior art which when combined obviates the instant ABA block polymers. Applicants' argument, which is stated in very general terms is believed to discount the Examiner's motivation or suggestion to combine the references. However, as stated in the last Office Action one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). A more specific argument against nonobviousness is required because as it stands the Examiner believes the motivation or suggestion to combine NAGARAJAN, PEI-HONG and ADAMS (see pp 7 and 8), and to combine NAGARAJAN, ADAMS and FRECHET (see p 10) is sound. Since none of the reasons the Examiner used to combine the references have been attacked or discounted the rejections remain.

The highlighted FRECHET argument in the Applicants' response states that nothing in FRECHET discloses or suggests having a PEG core. FRECHET, however, is used not used to show the B block is PEG, (the specific ABA block polymer has been obviated by NAGARAJAN and ADAMS), it is instead used to show that ABA block copolymers are used in the limitations and intended uses of instant claims 7-15, 17 and 18.

With regard to B), Applicants' amended claims 1-3 are interpreted as mere intended use and do not in any way define or add structural limitations to the composition. This limitation is obviated because the references define a composition that is capable of being used in a hair spray or mousse, and is capable of being packaged in a pump spray, aerosol, or pump aerosol container that is labeled for use in styling hair. Therefore this limitation, while clarifying, does not add any structural limitations to the instant claims and no additional search is necessary as this interpretation is incorporated into the rejections below.

Claim Objections

The objection of Claims 2, 3, 5-15 and 17-19 is **hereby withdrawn in light of the amendments.**

Claim Rejections - 35 USC § 112

The rejections of claims 5, 6 and 19 under 35 U.S.C. 112, second paragraph are hereby **withdrawn in light of Applicants' amendments.**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3 **remain** rejected under 35 U.S.C. 103(a) as being unpatentable over NAGARAJAN in view of PEI-HONG et al. ("Synthesis and Characterizations of Poly[2-(dimethylamino)ethyl methacrylate]-Poly(propylene oxide)-Poly[2-(dimethylamino)ethyl methacrylate] ABA Triblock Copolymers", J. of Polymer Science: Part A: Polymer Chemistry, Vol 40, 624-631, 2000) and in view of ADAMS et al (US 2002/0098214 see PTO-1449).

NAGARAJAN teaches ABA block copolymers of PEG with MMA and MAA in aqueous medium. A specific block polymer synthesized is the Poly(methyl methacrylate)-b-Poly(ethylene glycol)-b-Poly(methyl methacrylate) See e.g. page 1248, DSC studies; instant claims 1 and 2. The synthesis of these polymers was carried out in an aqueous acidic medium and water is a cosmetically acceptable diluent or carrier. See e.g. see page 1246, Polymerisation line 1; instant claims 1 and 2.

NAGARAJAN does not teach Poly[2-(dimethylamino)ethyl methacrylate] as the A group.

PEI-HONG teaches a method of synthesizing a well-defined ABA triblock copolymer. The triblock polymer has Poly[2-(dimethylamino)ethyl methacrylate] as the A group and Poly(propylene oxide) as the B group. See e.g. page 626, Figure 1; instant claims 1-3. Poly(propylene oxide) is the same compound as poly(propylene glycol) and differs from poly(ethylene glycol) by one carbon. While the B group is not PEG, the specification of the instant application discloses any poly(alkylene glycol) as suitable for the hair care composition of the instant application. See e.g. page 6 lines 20-21 of the instant specification.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to make a Poly[2-(dimethylamino)ethyl methacrylate]-Poly(ethylene oxide)-Poly[2-(dimethylamino)ethyl methacrylate] ABA triblock copolymers as taught by NAGARAJAN in view of PEI-HONG. One of ordinary skill in the art at the time the invention was made would have been motivated to combine these elements into a single composition because ABA polymers consisting of both hydrophilic and hydrophobic blocks are used widely in the biomedical, surface and biological sciences and poly(propylene glycol) and poly(ethylene glycol) are both hydrophilic and would have the same predictable art recognized function in a polymer with DMAEMA as the A group. Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention.

NAGARAJAN does not exemplify any divalent linkers.

ADAMS teaches polysiloxane block copolymers for use in cosmetic and hair styling compositions where the A and B group in a diblock AB or ABA triblock copolymer are connected by a linker. The linkers are "-R-C(O)-O-", "-R-O-(O)-O-", "-R-C(O)-N(R')-", "-R-O-C(O)-N(R')-", or "-R-N(R')-C(O)-N(R')-" in which R is a divalent, optionally substituted, linear or branched C1-C18 hydrocarbon radical and in which R' and R" are independently selected from monovalent, optionally substituted, linear or branched C1-C18 hydrocarbon radicals. See e.g. claim 4 and p[0058]-p[0066]: instant claims 4-6 and

Art Unit: 1615

19. ADAM specifically teaches A-L-B-L-A triblock copolymers used with the divalent linkers. See e.g. p[0066].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to make a hair treatment composition comprising the MMA-b-PEG-b-MMA block polymer where MMA and PEG are linked with a divalent linker, as taught by NAGARJAN and PEI-HONG in view of ADAMS. One of ordinary skill in the art at the time the invention was made would have been motivated to combine these elements into a single composition because the divalent linkers are used specifically to link triblock copolymers of the general ABA formula, as taught by ADMAS. Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention.

New Claims 1, 7-15, 17-19 **remain** rejected under 35 U.S.C. 103(a) as being unpatentable over NAGARAJAN in view of ADAMS in view of FRECHET et al. (US 2002/0160026 see PTO-892 filed 10/12/2007).

NAGARAJAN and ADAMS teach ABA block copolymers with divalent linkers, as described above.

NAGARAJAN and ADAMS do not exemplify excipients, concentrations of the polymer and excipients or solvents.

FRECHET teaches a cosmetic composition comprising a thermoplastic elastomer having a backbone comprising at least a proportion of C-C bonds and two or

Art Unit: 1615

more flanking polymers. See paragraph [0014]. The resulting copolymer can be an ABA block copolymer, see paragraph [0022]; instant claim 1. The cosmetic composition can be used for hair treatment, specifically hair styling, and comprise a cosmetically acceptable diluent or carrier and may contain a fragrance or perfume, see Abstract and paragraph [0080]; instant claims 1 and 8. The flanking and core polymers of the ABA copolymer are typically selected in a manner so as to produce a block copolymer with balanced hydrophilic/hydrophobic character. The copolymer may be, for example, soluble in water, ethanol or mixtures thereof or soluble in other cosmetically acceptable diluents or carriers. See paragraph [0028]; instant claim 7. The level of solubility is preferably from about 1% to about 25% by weight at 25C. See e.g. p[0029]; instant claims 17 and 18. The A group can be made of numerous compounds, preferably based on the monomer of dimethylaminoethyl methacrylate, see paragraph [0058] line 8; instant claim 1-3. Compositions of FRECHET contain the polymer in an amount ranging from 0.01% to 30%, more preferably from 0.1 to 10%, even more preferably from 0.1 to 5% by weight. See paragraph [0080]; instant claim 10. FRECHET also teaches the use of any conventional propellant to deliver the material as foam or as a fine, uniform spray. See paragraph [0086]; instant claim 13. The level of propellant can be adjusted as desired but is generally from about 3% to about 30% by weight based on total weight for mousse compositions and from about 15% to about 50% by weight based on total weight for aerosol hair spray compositions. See paragraph [0086]; instant claim 9. Additionally a surfactant can be present at a level of from about 0.01% to about 7.5% by weight based on total weight of the composition. See paragraph

[0086]; instant claim 12. The use of a structurant or thickener is taught and can be added an amount of from 0.01% to 10% by weight. See paragraph [0088]; instant claim 14. A cosmetic method of treating hair by applying the composition is disclosed in claims 29-31; instant claim 15. Finally, "[p]roducts of identical chemical composition can not have mutually exclusive properties.' A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)." See MPEP 2112.01.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to make a hair styling composition comprising ABA block copolymers, a surfactant, propellant and fragrances or perfumes, as taught by NAGARAJAN and ADAMS in view of FRECHET. One of ordinary skill in the art at the time the invention was made would have been motivated to combine these elements into a single composition because the propellants, surfactants and fragrances or perfumes are known to improve a hair styling composition containing ABA triblock polymers, as taught by FRECHET. Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRISTAN J. MAHYERA whose telephone number is 571-270-1562. The examiner can normally be reached on Monday through Friday 9am-7pm EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL P. WOODWARD can be reached on 571-272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tristan J Mahyera/
Examiner, Art Unit 1615

/MP WOODWARD/
Supervisory Patent Examiner, Art Unit 1615